# ALTITUDE TRAINING VS HEAT ACCLIMATISATION

## TRAINING AT ALTITUDE  
(SIMULATED / ACTUAL)  
### What are the current recommendations?
- Optimal altitude range 2000 to 2500m (Arizona 2134m)
- 21-28 days exposure required
- Minimum >12-18 hrs per day (18-22hrs ave)
- Exercise oxygen saturation <80%
- Simulated hypoxic training (2350m / 14% O2)

## TRAINING IN THE HEAT  
(THERMOREGULATION)  
### What are the current recommendations?
- Temp >36˚C / Humidity >50%
- 7-14 days exposure
- 90-100 min per day (10 days in a row)
- 90min every 3rd day (30 days exposure)
- Exercise intensity approx 50% VO2 max

## What are the reported benefits?
- Erythropoiesis (↑ EPO)
- ↑Red blood cell count and mass / haemoglobin
- ↑lactate clearance or ↓lactate production
- ↑metabolism
- Improved fitness (aerobic & anaerobic)
- ↑O2 to muscle / ↑lactate buffering
- Benefits maintained 12-28 days (variable)

### How does this help performance?
- Improved Aerobic performance / cardiovascular fitness
- ↑oxygen to muscle = ↑ aerobic capacity
- Improved repeated high intensity effort ability
- ↑fat loss
- ↑recovery rate / rehabilitation
- ↑Oxygen to muscle = ↑ aerobic capacity
- Improved cardiovascular efficiency
- Maintained electrolyte balance
- ↑body internal cooling effect
- ↑glycogen sparing = ↑high intensity ex

## What are the disadvantages or risks?
- Responders and non-responders (doesn’t work for everyone)
- Altitude (mountain) sickness
- Training intensity may ↓ at altitude
- 25% greater energy demands vs sea level
- ? Impact on the immune system / ? risk of illness

### Performance Considerations
- Physiological adaptation with ↓ training volume
- Integrated for fitness ‘Top Ups’ and ↓skinfolds
- Used in rehab to aid with return to fitness
- Implementation into individual training as appropriate
- Natural climate for performance
- Natural maintenance of Alt benefits
- Acclimatisation provides adv in comp